

AMENDMENTS TO THE CLAIMS:

Claims 1, 14 and 20 are amended. Claims 1-20 are pending. The following is the status of the claims of the above-captioned application, as amended.

Claim 1. (Currently amended.) A method for generating a gene library from an environmental pool of comprising microorganisms, which gene library is enriched in DNA encoding a polypeptide with an activity of interest, which method comprises:

a) subjecting the environmental pool of comprising microorganisms to cultivation under conditions wherein the pool of comprising microorganisms is enriched in microorganisms harbouring said DNA, thereby forming an enriched environmental pool of comprising microorganisms, and

b) preparing a gene library from the enriched environmental pool of comprising microorganisms, wherein prior to said preparing there is no further purification of the enriched environmental pool of microorganisms.

Claim 2. (Previously presented) The method of claim 1, wherein the conditions are culturing in a medium that contains a substrate for the polypeptide with an activity of interest encoded by said DNA.

Claim 3. (Previously presented) The method of claim 2, wherein the substrate constitutes the carbon source and/or nitrogen source of the medium.

Claim 4. (Previously presented) The method of claim 2, wherein the substrate comprises pectin, amylose, cellulose, galactose, xylose or arabinose or a combination thereof.

Claim 5. (Previously presented) The method of claim 1, wherein the pool of microorganisms is enriched by one or more growth restrictions.

Claim 6. (Previously presented) The method of claim 5, wherein the growth restrictions comprise pH and temperature.

Claim 7. (Previously presented) The method of claim 5, wherein the growth restrictions are pH 9-11 and temperature 50-70°C.

Claim 8. (Previously presented) The method of claim 1, wherein the gene library is enriched in DNA encoding an enzyme of interest.

Claim 9. (Previously presented) The method of claim 8, wherein the enzyme of interest comprises a hydrolase, an oxidoreductase, a transferase, a lyase or a ligase.

Claim 10. (Previously presented) The method of claim 8, wherein the enzyme of interest comprises a protease, lipase, beta-galactosidase, lactase, polygalacturonase, beta-glucosidase, esterase, hemicellulase, peroxidase, oxidase, laccase or glucose oxidase.

Claim 11. (Previously presented) The method of claim 8, wherein the enzyme of interest is a pectinase, an amylase, a galactanase, an arabinase, a xylanase, or a cellulase.

Claim 12. (Previously presented) The method of claim 1, wherein the environmental pool of comprising microorganisms comprises enzyme producing microorganisms.

Claim 13. (Previously presented) The method of claim 1, wherein the microorganisms comprise bacteria or fungi.

Claim 14. (Currently amended.) A method of identifying a DNA sequence encoding a polypeptide of interest from an environmental pool of comprising microorganisms, which method comprises:

a) subjecting the environmental pool of comprising microorganisms to cultivation under conditions wherein the pool of comprising microorganisms is enriched in microorganisms harbouring said DNA sequence, thereby forming an enriched environmental pool of comprising microorganisms;

b) producing gene libraries from the enriched environmental pool of comprising microorganisms, wherein prior to said preparing there is no further purification of the enriched environmental pool of comprising microorganisms, and

c) screening the libraries of step b) to identify a DNA sequence encoding the polypeptide of interest.

Claim 15. (Previously presented) The method of claim 14, wherein the polypeptide of interest encodes an enzyme.

Claim 16. (Previously presented) The method of claim 14, wherein the gene libraries are screened in step c) for an active enzyme.

Claim 17. (Previously presented) The method of claim 14, wherein the polypeptide of interest encodes a hydrolase, an oxidoreductase, a transferase, a lyase or a ligase.

Claim 18. (Previously presented) The method of claim 14, wherein the polypeptide of interest encodes a protease, lipase, beta-galactosidase, lactase, polygalacturonase, beta-glucosidase, esterase, hemicellulase, peroxidase, oxidase, laccase or glucose oxidase.

Claim 19. (Previously presented) The method of claim 14, wherein the polypeptide of interest encodes a pectinase, an amylase, a galactanase, an arabinase, a xylanase, or a cellulase.

Claim 20. (Currently amended.) The method of claim 14, wherein the conditions are culturing in a medium that contains a substrate for the polypeptide with an activity of interest encoded by said DNA.